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DOCKET NO: M0925.70138US00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Yet-Ming Chiang et al.
Serial No:	10/635,240
Confirmation No:	9369
Filed:	August 5, 2003
For:	ELECTROMECHANICAL ACTUATORS
Examiner:	Carol M. Koslow
Art Unit:	1755

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the 25 day of June, 2004.

Signature

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Madame:

Transmitted herewith is/are the following document(s):

[X] Information Disclosure Statement
[X] Form PTO-1449 and cited References
[X] Return Receipt Postcard

If the enclosed papers are considered incomplete, the Mail Room and/or the Application Branch is respectfully requested to contact the undersigned at (617) 646-8000, Boston, Massachusetts.

No fee is due. If the fee is insufficient, the balance may be charged to the account of the undersigned, Deposit Account No. 23/2825. A duplicate of this sheet is enclosed.

Respectfully submitted,

By: _____

Tani Chen, Sc.D., Reg. No. 52,728
Timothy J. Oyer, Ph.D., Reg. No. 36,628
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Telephone: (617) 720-3500

Date: June 25, 2004
XNDDX

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Madame:

STATEMENT FILED PURSUANT TO THE DUTY OF DISCLOSURE UNDER 37 CFR §§1.56, 1.97 AND 1.98

Pursuant to the duty of disclosure under 37 C.F.R. §§1.56, 1.97 and 1.98, the Applicants request consideration of this Information Disclosure Statement.

PART I: Compliance with 37 C.F.R. §1.97

This Information Disclosure Statement has been filed before the mailing date of a first Office Action on the merits in the above-identified case. No fee or certification is required.

PART II: Information Cited

The Applicants hereby make of record in the above-identified application the information listed on the attached form PTO-1449 (modified). The order of presentation of the references should not be construed as an indication of the importance of the references.

The Applicants would like to bring to the Examiner's attention the following co-pending applications that may contain subject matter related to this application:

Serial No.	Filing Date	Inventor(s)
09/686,331	October 11, 2000	Chiang et al.
09/862,916	May 22, 2001	Mayes et al.
10/021,740	October 22, 2001	Chiang et al.
10/329,046	December 23, 2002	Chiang et al.

PART IV: Remarks

Documents cited anywhere in the Information Disclosure Statement are enclosed unless otherwise indicated. It is respectfully requested that:

1. The Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;

2. The enclosed form PTO-1449 be signed by the Examiner to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application;

3. The citations for the information be printed on any patent which issues from this application.

By submitting this Information Disclosure Statement, the Applicants make no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

By submitting this Information Disclosure Statement, the Applicants make no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

By submitting this Information Disclosure Statement, the Applicants make no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

Notwithstanding any statements by the Applicants, the Examiner is urged to form her own conclusion regarding the relevance of the cited information.

An early and favorable action is hereby requested.

Respectfully submitted,

By: _____

Tani Chen, Sc.D., Reg. No. 52,728
Timothy J. Oyer, Ph.D., Reg. No. 36,628
Wolf, Greenfield & Sacks, P.C.
600 Atlantic Avenue
Boston, Massachusetts 02210-2211
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Docket No. M0925.70138US00
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FORM PTO-1449/A and B (Modified)	APPLICATION NO.: 10/635,240	ATTY. DOCKET NO.: M0925.70138US00
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	FILING DATE: August 5, 2003	CONFIRMATION NO.: 9369
	APPLICANT: Yet-Ming Chiang et al.	
	GROUP ART UNIT: 1755	EXAMINER: Carol M. Koslow
Sheet 1 of 3		

U.S. PATENT DOCUMENTS

Examiner's Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication or of issue of Cited Document MM-DD-YYYY
		Number	Kind Code		
		3,989,008		Neumann	11-02-1976
		*3,994,823		Ainger et al.	11-30-1976
		4,542,083		Cava et al.	09-17-1985
		4,668,595		Yoshino et al.	05-26-1987
		*5,423,995		Helke et al.	06-13-1995
		*5,500,142		Ushida et al.	03-19-1996
		*5,527,480		Bailey et al.	06-18-1996
		5,558,961		Doeff et al.	09-24-1996
		*5,637,542		Takenaka	08-30-1996
		*5,648,012		Higashibeppu et al.	07-15-1997
		*5,796,207		Safari et al.	08-18-1998
		*6,004,474		Takenaka et al.	12-21-1999
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		*6,231,779	B1	Chiang et al.	05-15-2001
		6,426,018	B1	Takahashi et al.	07-30-2002
		6,599,662	B1	Chiang et al.	07-29-2003
		2002/0036282	A1	Chiang et al.	03-28-2002
		2002/0048706	A1	Mayes et al.	04-25-2002
		2003/0082446	A1	Chiang et al.	05-01-2003
		2003/0099884	A1	Chiang et al.	05-29-2003
		2004/0005265	A1	Chiang et al.	01-08-2004

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Sheet | | of | 3	GROUP ART UNIT: 1755	EXAMINER: Carol M. Koslow

FOREIGN PATENT DOCUMENTS

Examiner's Initials	Cite No.	Foreign Patent Document: Office/ Country	Foreign Patent Document: Number	Foreign Patent Document: Kind Code	Name of Patentee or Applicant of Cited Document (not necessary)	Date of Publication of Cited Document MM-DD-YYYY	Translation (Y/N)
		JP	2001-048641		Tokin Corporation	02-20-2001	Abstract only
		WO	98/16960	A3	Massachusetts Institute of Technology	04-23-1998	Y
		WO	99/56331	A1	Massachusetts Institute of Technology	11-04-1999	Y
		WO	00/41256	A1	Massachusetts Institute of Technology	07-13-2000	Y
		WO	01/77501	A2	Massachusetts Institute of Technology	10-18-2001	Y
		WO	02/43168	A2	Massachusetts Institute of Technology	05-30-2002	Y
		WO	03/012908	A2	Massachusetts Institute of Technology	02-13-2003	Y
		WO	03/056646	A1	Massachusetts Institute of Technology	07-10-2003	Y

OTHER ART — NON PATENT LITERATURE DOCUMENTS

Examiner's Initials	Cite No	Include name of the author (in CAPITAL LETTERS) title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, relevant page(s), volume-issue number(s), publisher, city and/or country where published.	Translation (Y/N)
		* KUWATA, J. et al., "Dielectric and Piezoelectric Properties of $0.91Pb(Zn_{1/3}Nb_{2/3})O_3$-$0.09PbTiO_3$ Single Crystals," *Japanese Journal of Applied Physics*, September 1982, 21(9):1298-1302.*	Y
		* ROLEDER, K. et al., "Time Dependence of Electric Permittivity in $Na_{0.5}Bi_{0.5}TiO_3$ Single Crystals," *Ferroelectrics*, 1989, 89:1-5. no month.	Y
		* SAKATA, "Ferroelectric and Antiferroelectric Properties of $(Na_{0.5}Bi_{0.5})$ TiO_3–$SrTiO_3$ Solid Solution Ceramics," *Ferroelectrics*, 1974, 7:347-349. no month.	Y
		* SMOLENSKII, G.A. et al., "New Ferroelectrics of Complex Composition.IV," *Sov. Phys.-Solid State*, May 1961, 2(11):2651-2654.	Y
		* TAKENAKA, T. et al, "Acoustic Wave Characteristics of Lead-Free $(Bi_{1/2}Na_{1/2})_{0.99}Ca_{0.01}TiO_3$ Piezoelectric Ceramic", *J. Appl. Phys. Suppl.*, 1992, 28:59-62. No month.	Y
		* TAKENAKA et al, "$Bi_{1/2}Na_{1/2})TiO_3$ System for Lead-Free Piezoelectric Ceramics", *Japanese Journal of Applied Physics*, September 1991, 30(9B):2236-2239.*	Y
		* TAKENAKA, T. et al, "Piezoelectric Ceramics of $(Bi_{1/2}Na_{1/2})TiO_3$-$PbTiO_3$-$BaTiO_3$ System," *Elect. Eng. Japan*, 1992, 112(7):92-100.	Y
		* BERGMAN et al., "Phase Diagram for K_2O-Na_2O-B_2O_3-P_2O_5," Reported in *Russ. J. Inorg. Chem.* 14(7):1036-1038 (1969) [abstract only].	
		* MANIER Et al., "$Na_{0.5}Bi_{0.5}TiO_3$-$K_{0.5}Bi_{0.5}TiO_3$ (NBT-KBT) System: A Structural and Electrical Study: *Phys. Stat. Sol.* 157:499-506 (1996).	
		* PARK AND SHROUT, "Ultrahigh Strain and Piezoelectric Behavior in Relaxor Based Ferroelectric Single Crystals" *J. Appl. Phys.* 82:1804-1811 (1997).	
		* PARK AND CHUNG, "Nonstoichiometry and the Long-Range Cation Ordering in Crystals of $(Na_{1/2}Bi_{1/2})TiO_3$" *J. Am. Ceram. Soc.* 77(10):2641-47 (1994).	
		* PRONIN et al., "Peculiarities of Phase Transitions in Sodium-Bismuth Titanate" *Ferroelectrics* 25:395-397 (1980).	
		* ROLEDER et al., "Time Dependence of Electric Permittivity in $Na_{0.5}Bi_{0.5}TiO_3$ Single Crystals" *Ferroelectrics* 89:1-5 (1989).	
		* SERVICE, "Shape-Changing Crystals Get Shiftier" *Science* 275:1877-1878 (1997).	
		* TAKENAKa et al., "Mechanical Properties of $(Bi_{1/2}Na_{1/2})TiO_3$-based Piezoelectric Ceramics" *Silicates Industrieles* 7-8:136-142 (1993).	
		* VAKHRUSHEV et al., "Investigation of a Broad Phase Transition in $Na_{0.5}Bi_{0.5}TiO_3$ By the Neutron Scattering Method" *Sov. Phys. Solid State* 27(3):455-457 (1985).	
		* WANG et al., "Phase Diagram of $K_{0.5}Bi_{0.5}TiO_3$-$Na_{0.5}Bi_{0.5}TiO_3$" *Guisuanyan Xuebao* 15(3):248-255 (1987) [abstract only].	

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Sheet 3 of 3	GROUP ART UNIT: 1755	EXAMINER: Carol M. Koslow

		* International Search Report for PCT/US01/11549, filed April 10, 2001		

EXAMINER	DATE CONSIDERED

#EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

*a copy of this reference is not provided as it was previously cited by or submitted to the office in a prior application, Serial No. 09/174,981 , filed October 19, 1998 , and relied upon for an earlier filing date under 35 U.S.C. 120 (continuation, continuation-in-part, and divisional applications).